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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,543	07/08/2003	Donald Justus	2003-IP-010083U1	9027

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EXAMINER
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FULLER, BRYAN A

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 05/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/615,543

Applicant(s)

JUSTUS ET AL.

Examiner

Bryan A. Fuller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 - 80 is/are pending in the application.
- 4a) Of the above claim(s) 61 - 80 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/8/03 &amp; 5/13/04</u> . | 6) <input type="checkbox"/> Other: ____  |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1 - 60, drawn to a method of using a fluid in a subterranean formation, classified in class 166, subclass 281.
  - II. Claims 61 - 80, drawn to a reduced-density, coated particulate used for treating subterranean formations, classified in class 428, subclass 407.
2. The inventions are distinct, each from the other because:
3. Inventions II and I are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the cement fluid can be used as a filler outside the area of wellbores.
4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
5. During a telephone conversation with Robert Kent on 5/18/2005 a provisional election was made without traverse to prosecute the invention of Group I claims 1 - 29. Affirmation of this election must be made by applicant in replying to this Office action. Claims 30 – 50 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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Claims 30 – 50 are withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 4 – 7, 24, and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "the hardenable resin" in the first line of claim 4.

There is insufficient antecedent basis for this limitation in the claim. It seems that this can be overcome if claim 4 was dependent on the method of claim 3 as opposed to the method of claim 2.

Claim 5 recites the limitation "the liquid hardening agent" in the first line of claim

5. There is insufficient antecedent basis for this limitation in the claim. It seems that this can be overcome if claim 5 was dependent on the method of claim 3 as opposed to the method of claim 2.

Claim 6 recites the limitation "the silane coupling agent" in the first line of claim 6.

There is insufficient antecedent basis for this limitation in the claim. It seems that this can be overcome if claim 6 was dependent on the method of claim 3 as opposed to the method of claim 2.

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Claim 7 recites the limitation "the surfactant" in the first line of claim 7. There is insufficient antecedent basis for this limitation in the claim. It seems that this can be overcome if claim 7 was dependent on the method of claim 3 as opposed to the method of claim 2.

Claim 24 recites the limitation "the hardenable resin" in the first line of claim 24. There is insufficient antecedent basis for this limitation in the claim. It seems that this can be overcome if claim 24 was dependent on the method of claim 23 as opposed to the method of claim 22.

Claim 35 recites the limitation "the tackifying coating material" in the first line of claim 35. There is insufficient antecedent basis for this limitation in the claim. It seems that this can be overcome if claim 35 was dependent on the method of claim 34 as opposed to the method of claim 33.

### ***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1 – 2, 4, 14 – 15, 21 – 22, 24, 34, 41 – 42, and 54 – 55 are rejected under 35 U.S.C. 102(b) as being anticipated by Nguyen et al (6,209,643).

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With respect to claims 1 – 2, 4, 14 – 15, 21 – 22, 24, 34, 41 – 42, and 54 – 55:

Nguyen et al teaches in column 4, line 3 – column 9, line 41 a method of treating a subterranean formation comprising the steps of: providing a servicing fluid comprising a reduced-density particulate having a surface and a coating wherein the surface comprises a porous or partially hollow geometry and coating is capable of trapping a fluid between the particulate's surface and the coating; and, placing the servicing fluid into the subterranean formation.

Additionally, Nguyen et al teaches a method of fracturing a subterranean formation comprising the steps of: providing a fracturing fluid comprising a reduced-density particulate having a surface and a coating wherein the surface comprises a porous or partially hollow geometry and coating is capable of trapping a fluid between the particulate's surface and the coating; and, placing the fracturing fluid into the subterranean formation at a pressure sufficient to create at least one fracture therein; and removing the fracturing fluid while leaving at least a portion of the reduced-density, coated particulate in the fracture.

Finally, Nguyen et al teaches a method of installing a gravel pack comprising the steps of: providing a gravel packing fluid comprising a reduced-density particulate having a surface and a coating wherein the surface comprises a porous or partially hollow geometry and coating is capable of trapping a fluid between the particulate's surface and the coating; and, introducing the gravel packing fluid to the well bore so that the reduced-density gravel forms a gravel pack substantially adjacent to the well bore.

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Nguyen et al teaches the use of a resin-type coating material. In addition to this, Nguyen teaches the use of a tackifying coating material made from polyamides. The resin-type coating also includes a hardenable resin comprising phenol-aldehyde.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 3, 5 – 7, 12 – 13, 23, 25 – 27, 32 – 33, 35, 43 – 47, and 52 – 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al in view of Murphey et al (4,665,988).

With respect to claims 3, 5 – 7, 12 – 13, 23, 25 – 27, 32 – 33, 35, 43 – 47, and 52 – 53: Nguyen et al teaches the features as claimed except for the use of specific compounds as the hardening agent, silane coupling agent, and a surfactant with the hardening resin. Additionally, Nguyen et al does not teach the use of bisphenol A-epichlorohydrin as the resin nor does it teach the use of ethylene glycol butyl ether as a solvent. Murphey et al teaches in column 1, line 53 – column 11, line 26 the use of aromatic amines as a hardening agent, n-beta-(amine-ethyl)-gamma-aminopropyltrimethoxy silane as the silane coupling agent, and mixtures of cationic and non-ionic surfactants. Murphey et al also teaches the use of bisphenol A-epichlorohydrin as the resin ethylene glycol butyl ether as a solvent. Therefore, it would

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have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Nguyen's method by including the specific hardening agent, silane coupling agent, surfactant, resin and solvent in view of the teachings of Murphey et al. The motivation lies in the fact that the method of preparing the fill material used in subterranean formation allows for the maintenance of a desired permeability whereby communication to the formation is maintained and not substantially restricted.

12. Claims 8, 10, 48, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al in view of Hoogteijling et al (6,079,492).

With respect to claims 8, 10, 48, and 50: Nguyen et al teaches the features as previously claimed except for the use of a furan-based resin and a phenol-based resin. Hoogteijling et al teaches in column 4, lines 49 – 67 the use of a furan-based resin or the use of a phenol-based resin. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Nguyen's method by including furan-based or phenol-based resins in view of the teachings of Hoogteijling et al. The motivation for this combination is that the hardening of these resins takes place very rapidly.

13. Claims 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al and Murphey et al as applied to claim 23 above, and further in view of Hoogteijling et al.

With respect to claims 28 and 30: Nguyen et al and Murphey et al teach the features as claimed except for the use of a furan-based or phenol-based resin. Hoogteijling et al teaches in column 4, lines 49 – 67 the use of a furan-based resin or



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the use of a phenol-based resin. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Nguyen's and Murphey's methods by including furan-based or phenol-based resins in view of the teachings of Hoogteijling et al. The motivation for this combination is that the hardening of these resins takes place very rapidly.

14. Claims 9, 11, 49, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al and Hoogteijling et al as applied to claims 8, 10, 48, and 50 above, and further in view of Acock et al (6,732,800).

With respect to claims 9, 11, 49, and 51: Nguyen et al and Hoogteijling et al teach the features as claimed except for the use of a specific solvent for the resin. Acock et al teaches in column 5, lines 21 - 37 the use of butyl acetate as a solvent for the resin. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Nguyen's and Hoogteijling's methods by including butyl acetate as a solvent for the resins in view of the teachings of Acock et al. The motivation for this combination is that the solvent reduces viscosity and removes water generated by the condensation of the resin.

15. Claims 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen, Murphey, and Hoogteijling as applied to claims 23, 28, and 30 above, and further in view of Acock et al.

With respect to claims 29 and 31: Nguyen et al, Murphey et al, and Hoogteijling et al teach the features as claimed except for the use of a specific solvent for the resin. Acock et al teaches in column 5, lines 21 - 37 the use of butyl acetate as a solvent for

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the resin. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Nguyen's, Murphey's, and Hoogteijling's methods by including butyl acetate as a solvent for the resins in view of the teachings of Acock et al. The motivation for this combination is that the solvent reduces viscosity and removes water generated by the condensation of the resin.

16. Claims 16 – 18, 20, 36 – 38, 40, 56 – 58, and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al in view of Goodhue, Jr. et al (5,663,123).

With respect to claims 16 – 18, 20, 36 – 38, 40, 56 – 58, and 60: Nguyen et al teaches the features as previously claimed except for the use of a specific degradable polymer as the coating material and the use of a plasticizer. Goodhue, Jr. et al teaches in column 5, line 13 – column 8, line 59 the use of polysaccharide as a degradable polymer coating and the use of a plasticizer. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Nguyen's method by including polysaccharide as a degradable polymer coating and adding a plasticizer in view of the teachings of Goodhue, Jr. et al. The motivation for this combination is that these fluids are more functionally effective.

17. Claims 19, 39, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al and Goodhue, Jr. et al as applied to claims 16 – 17, 36 – 37, and 56 - 57 above, and further in view of Erbstoesser et al (4,387,769).

With respect to claims 19, 39, and 59: Nguyen et al and Goodhue, Jr. et al teach the features as previously claimed except for the use of poly(lactide) as the specific

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degradable polymer coating. Erbstoesser et al teaches in column 3, line 4 – column 4, line 20 the use of poly(lactide) as the degradable polymer coating. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Nguyen's and Goodhue, Jr.'s methods by including poly(lactide) as the degradable polymer coating in view of the teachings of Erbstoesser et al. The motivation for this combination is that these fluids will degrade to oligomers, which may be partially soluble in both water and oil.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan A. Fuller whose telephone number is (571) 272-8119. The examiner can normally be reached on M - Th 7:30 - 5:00 and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'DJB', is positioned above the printed name.

David J. Bagnell  
Supervisory Patent Examiner  
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baf